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19 September 1979

# Worldwide Report

EPIDEMIOLOGY

No. 157



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## WORLDWIDE REPORT

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## AUSTRALIA

### BRIEFS

**QUEENSLAND IMMUNIZATION PROGRAM**--Recently State Health Minister (Sir William Knox) discovered to his dismay that only about 60 per cent of Queensland children had received their triple antigen immunising injections against diphtheria, whooping cough and tetanus and their oral polio vaccine. This means that these diseases--particularly diphtheria and polio, which we have considered to be altogether conquered--could break out again in individual cases or epidemic proportions. A full list of all the vaccines available was published in the Courier-Mail on July 10. The list showed the number of injections needed, the intervals between them and the ages at which they should be given. Parents were urged to ensure their children were protected against diphtheria, tetanus, whooping cough and poliomyelitis, their girls from rubella and adults were advised about vaccines against smallpox, yellow fever, cholera and typhoid when travelling abroad. [Excerpt] [Brisbane THE COURIER-MAIL in English 25 Jul 79 p 22]

**CHOLERA IN MELBOURNE**--A young Melbourne tourist who contracted cholera in Bali was immunised twice against the disease before she left Australia. A travelling companion of the 20-year-old woman, also being treated in Fairfield Infectious Diseases Hospital, may be a second cholera victim. Health officials said yesterday the confirmed cholera sufferer, a Box Hill veterinary nurse, and her companion may have caught the disease from drinking fruit juices at Legian, near Kuta Beach on Bali's south coast. Inoculation against cholera has not been compulsory for tourists leaving Australia since about 1975, but the Federal Department of Health said yesterday the two travellers had followed recommendations to be immunised. The Victorian director of the department, Dr. Dick Webb, said the veterinary nurse had two injections about three months ago. The vaccine which Fairfield's cholera victim had was prepared by the Commonwealth Serum Laboratories. [Excerpts] [Melbourne THE AGE in English 9 Aug 79 p 3]

**LEGIONNAIRES' DISEASE**--Melbourne--The Victorian Government will take four steps aimed at controlling legionnaires' disease as a result of confirmation that a second Telecom employee has died from the disease. The measures, announced yesterday by the State Minister for Health, Mr Borthwick, will include tests on all employees at Telecom's three exchanges in Melbourne not already screened for any sign that they have come in contact with the disease. Modifications will also be made to air-conditioning units at Telecom's City West exchange, facilities for detecting the disease will be improved at Fairfield Hospital and doctors will be told how to recognise legionnaires' disease. [Excerpt] [Sydney THE SYDNEY MORNING HERALD in English 7 Aug 79 p 10]

## BRAZIL

### HEALTH MINISTRY SEEKS CONTROL OF SCHISTOSOMIASIS, LEISHMANIASIS

#### Campaign Against Periwinkles

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Aug 79 p 16

[Text] Brasilia--In order to prevent the transmission of schistosomiasis in regions of the country where it is not yet endemic, the Ministry of Health, through the SUCAM [Superintendency for Public Health Campaigns] will launch a campaign to detect and control the disease in the peripheral sectors of large urban centers and in hydroelectrical development areas, since migration is intensive in these regions making the development of ecological conditions favorable to the proliferation of periwinkles possible.

Initially, the SUCAM will effect a survey in the schools to identify the students coming from areas where the disease is endemic. Fecal specimens from these students and members of their families will be analyzed and the cases identified treated, bearing in mind that periwinkles carrying *Schistosoma* and infectious to a greater or lesser degree, as well as being distributed irregularly, may be found in areas where the disease is not endemic.

In these areas the Ministry of Health will maintain mobile units to effect fecal analyses and to provide immediate treatment for the individuals affected by the disease. This service will be supported by screening stations at hydroelectrical development sites, as well as irrigation projects, at which all those interested in going to work or living in the region will be examined.

#### Sergipe

Within 15 days, the SUCAM will complete its work in Aracaju on the destruction of periwinkles and the supply of mass medication for the Sergipe population affected by schistosomiasis. The campaign has been underway for more than two years, and the indices show that the incidence of the disease in the interior of the state has now been reduced to less than a third of the former figure. Initially, the endemic part of the state included 40 of its 74 municipalities, where the incidence of the disease was 40 percent, while

Aracaju had an index of 36.8 percent, the highest in any capital of the country. Treatment has now been completed in 39 of the 40 municipalities in the endemic area, and more than 100,000 persons have now received medication in Aracaju.

#### Leishmaniasis in Sao Paulo

Rio de Janeiro JORNAL DO BRASIL in Portuguese 15 Aug 79 p 8

[Text] Sao Paulo--The existence of an outbreak of leishmaniasis in the Presidente Prudente region, with 17 cases reported since the beginning of the year, 2 of them in the first week of August, was confirmed yesterday by the State Health Secretariat. The report added that 11 cases have now been cured and 6 are still being treated.

According to the secretariat, 15 of the individuals suffering from the disease were men between 32 and 76 years of age working at the forestry preserve at Pontal de Paranapanema. The Superintendency for Endemic Disease Control (SUCEN) "is prepared for a future campaign against the vectors, a step not yet required because transmission in the home has not yet been confirmed," the secretariat said.

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## BRAZIL

### CURRENT CHAGAS' DISEASE CONTROL PROGRAM ASSESSED

#### Elimination of Disease Possible

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Aug 79 p 25

[Text] If the Ministry of Health, working through the SUCAM [Superintendency for Public Health Campaigns], were to intensify spraying with the insecticide BHC [benzene hexachloride] in the areas of the country affected by Chagas' disease, thus interrupting the transmission of the disease by the barber bug, the number of new patients suffering from Chagas' disease, an illness now found in between 8 and 10 million Brazilians, would be minimal by the end of this term of government office.

This is the main recommendation submitted to Health Minister Castro Lima by Sao Paulo researcher Guilherme Rodrigues da Silva who, along with four other scientists, has been attending a meeting for the past two days at the SUCAM to assess the present campaign to control Chagas' disease and to suggest new methods of combating the vector.

In order to launch a frontal attack on the barber bug found in all endemic localities by 1980, the Ministry of Health will need 900 million cruzeiros instead of the 15 million spent this year on the import of 1,000 tons of BHC from South Africa at 15 cruzeiros per kilogram.

As the ministry has encountered serious difficulty in importing this product, the SUCAM has already begun negotiations with a Sao Paulo laboratory for the domestic production of BHC beginning next year, in quantities sufficient to meet the demand consistent with the new campaign against the vectors of Chagas' disease, still pending ministerial approval.

The professor of preventive medicine at the USP [Sao Paulo University] sees no technical shortcomings in the program drafted by the SUCAM. He stressed the failure of the federal government to give priority to the control of Chagas' disease, which affects four million rural workers, making the existence of the problem incompatible with the stress placed by this administration on farm development.

## Disease Incidence

Rio de Janeiro JORNAL DO BRASIL in Portuguese 16 Aug 79 p 8

[Text] Brasilia--The partial results of the serological survey being made throughout the country to establish the index showing the prevalence of Chagas' disease revealed a very high percentage of sufferers--5.6 percent. This figure was provided by the study of 40 percent of the 1,600,000 blood samples collected by the Superintendency for Public Health Campaigns.

However, the real index showing the incidence of the disease will only be known when statistical corrections of the index established thus far have been effected and until the study of the remaining 60 percent of the blood samples collected between 1977 and 1978 is completed at the University of Sao Paulo. Thus far, the greatest prevalence of the disease has been found in Rio Grande do Sul, Minas Gerais, Goias, Parana and Bahia.

Brazilian scientists specializing in Chagas' disease will meet in Brasilia on 23 and 24 August for the purpose of studying the possibility of introducing a new method of combating the barber bug--the insect which transmits the disease--in Brazil, as well as promoting improvement of the program for combating the disease. One of the subjects to be discussed will be establishing priorities where the resident vectors (transmitters) are prevalent, as is the case with type *T. infestans* in the South and *T. brasiliensis* in the Northeast.

The campaign against Chagas' disease was begun in 1975 by the SUCAM in the states of Minas Gerais, Piaui, Ceara, Rio Grande do Norte, Pernambuco, Paraiba, Parana, Santa Catarina, Rio Grande do Sul, Alagoas, Sergipe, Bahia and Goias.

It entails a geographical survey of the area affected and a survey of the *Triatoma* (barber bug) for the purpose of detecting infestation in whatever homes are affected. At sites where barber bugs are found, the SUCAM undertakes spraying with BHC as often as is necessary to exterminate the transmitting agents.

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## BRAZIL

### POLIO SITUATION IN BRAZIL REVIEWED

#### High Incidence of Polio

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 Aug 79 p 4

[Excerpt] "Between 1971 and 1975 Brazil had the highest incidence of paralyzing poliomyelitis anywhere in Latin America, with an average of 78 cases per year." This statement was made last evening in Santo Andre by scientist Albert Sabin, the discoverer of the vaccine against infantile paralysis, a special guest at the closing session of the Fourth ABC [Santo Andre, Sao Bernardo do Campo and Sao Caetano do Sul] University Medical Congress.

According to Sabin, countries such as Brazil have a population a part of which is in good or regular economic conditions with a much higher proportion of very poor individuals. "In the capital of Sao Paulo alone," he said, "7.4 times more cases of polio were reported in the poorer peripheral area in 1974 and 1975. In my view, the system of vaccination needs to be different for children receiving good health care from their doctors as compared to those living in large groups and in extreme poverty."

He stated that the difficulty in eliminating poliomyelitis as a public health problem in economically underdeveloped countries is administrative and not immunological. "The problem is administrative because the broad routine immunization programs recommended by the World Health Organization and organized consistent with the model in the developed countries where the vaccines are administered by private physicians or in general infant medical aid clinics do not serve the purpose for the poor countries."

According to Albert Sabin, 1,443,000 cases of infantile paralysis were reported in the state of Sao Paulo between 1974 and 1977, 37 percent of them in children under 1 year of age and 58 percent in children between 1 and 4. In other words, 95 percent of the cases occurred in children under 5 years of age.



## Polio Outbreak Feared

Rio de Janeiro O GLOBO in Portuguese 16 Aug 79 p 12

[Text] The Sabin vaccine against poliomyelitis (infantile paralysis) has been administered to only 24.9 percent of the infant population in Nova Iguacu in the 1-to-4-year age category. This percentage was achieved as a result of the first stage of intensified mass vaccination begun in June, at the 12 health stations in the state and throughout the municipalities.

"There is an indication of an upsurge in polio despite the fact that all our stations have been offering vaccinations. According to my estimates, at least 34,290 infants under a year of age should be vaccinated this year for the first time, as well as 54,756 children between 1 and 4 years of age, if the parents take their children to the vaccination stations," the director of the health center, Telemaco Boldrin, stated.

At a meeting held yesterday at the Dr Vasco Barcelos Health Center in Nova Iguacu, attended by the director-general of the General Epidemiology and Disease Control Department, Eloadir Pereira da Rocha, and Boldrin, the problem was discussed. According to Eloadir Rocha, the greatest number of cases of the disease in Nova Iguacu is concentrated in the Austin and Morro Agudo quarters, where the residents, apart from transportation difficulties, require greater education on the matter because of "cultural poverty." The Health Secretariat hopes to vaccinate at least 68.7 percent of the children of Nova Iguacu between 1 and 4 years of age by the end of the year.

Eloadir announced that in December of last year, a high number of polio cases was reported in Nova Iguacu. The index did not change until April, but in that month the outbreak "began to be combated with greater efficiency by the state."

The figures presented at the meeting by Eloadir Pereira da Rocha on the results of the first stage of the intensification plan in Nova Iguacu were as follows: 6,564 children between 1 and 4 years of age took the first dose of Sabin vaccine, 3,579 the second dose, and 3,515 the third. Eloadir further said that 10,479 infants under 1 year of age took the first dose, 6,963 the second and 6,131 the third. In all, 23,573 infants under 1 year of age were vaccinated.

### Meeting

After warning the population of the fact that a child will only be really immune to polio after the third dose, the doctors participating in the meeting reported on the changes which will be made in the second stage of the intensified campaign against the disease.

To avoid publicity errors and failure of the campaign, all community bodies will now be used: neighborhood residents' associations, service clubs,

churches, gathering places for voodoo rites, football clubs and mobile loudspeaker units.

Loudspeaker trucks will begin circulating in the Queimados, Belfort Roxo, Mesquita and Japeri quarters tomorrow broadcasting appeals to parents to take their children to the vaccination stations. Also tomorrow, the same vehicles will cover the Engenheiro Pedreira, Austin and Morro Agudo neighborhoods.

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## BRAZIL

### BRIEFS

NEW TB TREATMENT--Brasilia--The Ministry of Health has begun a new type of patient treatment, using stronger drugs for a shorter time, to treat the 100,000 tuberculosis patients diagnosed in Brazil every year and to reduce the social costs, through the control of the disease, from 100 to 80 million dollars by 1980. The SEPLAN has already allocated 400 million cruzeiros for the gradual development of the program. Although the new treatment, based on rifampin (which is imported, but will be produced in Brazil in the future), hydrazine and pyrazinamide, will cost 3,000 cruzeiros per patient as compared to 200 spent previously, the director of the National Sanitary Pneumology Division, Germano Gerhard Filho, gives assurance that the social costs involved in the campaign against the disease pursued by the INAMPS and the state Health Secretariats will be reduced, and almost 50,000 persons carrying the tuberculosis bacillus who would inevitably infect healthy persons will be cured. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 26 Aug 79 p 25] 5157

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## MENINGITIS OUTBREAK REPORTED IN OSORNO

### Massive Inoculations Not Contemplated

Santiago EL MERCURIO in Spanish 11 Aug 79 p C-5

[Text] The director of the Epidemiological Department of the Ministry of Health, Dr Jose Manuel Borgono, yesterday confirmed 17 cases of meningitis in the Osorno region, as the result of which three persons died; however, he reported that only five cases have been confirmed as meningitis of the "meningococcal" type.

The specialist pointed out that between 15 and 20 percent of the Chilean population have "meningococcal" virus in their throats. He described this situation as normal and added that this, therefore, does not mean significant outbreaks of the above-mentioned disease.

Borgono also said that the type of meningococcus which caused the death of the three Osorno persons has not yet been identified.

In any event, he announced that on Monday, 13 August, a team of specialists from the Ministry of Health will go to Osorno with the paraphernalia needed for massive inoculations during that week.

With respect to the cases reported in that city, he added that most of them are under 15 years of age, with only two adults.

He also said that the epidemiological situation in the rest of the country does not warrant massive inoculations.

### More on Osorno Situation

Santiago EL MERCURIO in Spanish 11 Aug 79 p C-5

[Text] Osorno--Three persons have died and at least 17 other cases are being treated in this city's hospital, as the result of an epidemic of meningitis, EL MERCURIO was told yesterday afternoon by the director of the Base Hospital and deputy director of the area hospital, Dr Federico Cattaneo.

The deaths involved children under 2 years of age from Osorno and San Juan de la Costa. The situation is worrying the health authorities, who have taken the steps recommended by the Ministry of Health in such cases.

#### No Vaccine

Dr Cattaneo said that the National Health Service does not now have the doses of antimeningitis vaccine needed. This situation was reported by the Regional Health Office, which also notified the Ministry of Health, from which it hopes to receive the medicines required for the population.

The doctor also reported that next Monday a team of two specialists from the National Health Service will arrive in this city. They will take the preventive measures required by the emergency.

The number of cases being treated up to now in the Regional Hospital varies, depending upon which staff personnel make the report. Of the 17 proven cases of meningitis, three are of the meningococcal type, which appears suddenly, with the initial symptoms of high fever, headache and general weakness. These increase rapidly to the point of loss of consciousness. Dr Cattaneo said that the epidemic has principally affected children between 10 and 15 years of age but that there was at least one case of a person over 18.

#### Situation in Santiago

In the face of the meningitis outbreak reported in the Osorno region during the last few days, EL MERCURIO conducted an investigation at several health centers of the capital. Their spokesmen said that not one case of this disease had been reported, except for the Arriaran Hospital, where one case of meningitis was admitted Monday, which is under control and which "apparently is not of the epidemic type." On the other hand, not one case has been reported in the last few days by the Calvo Mackenna and Roberto del Rio Hospitals, both specializing in children.

#### Five Fatalities

Santiago EL MERCURIO in Spanish 13 Aug 79 p C-1

[Article by Nelson Salazar Monasterio]

[Text] The number of fatalities from the outbreak of meningitis in Osorno Province has risen to five.

The last two cases were a 5-month-old infant, a resident of the urban section of the city, who died early Saturday morning. Yesterday an 11-year-old girl died; she was from the coastal area of the province known as San Juan de la Costa.

According to information supplied by health authorities, the number of proven cases of meningitis increased to 20, including the five fatalities.

In the last few hours, a young 19-year-old woman was admitted to the Base Hospital. She is a resident of the urban section of this city, who is being held under observation.

#### Inoculation Psychosis

This situation has produced a veritable inoculation psychosis among the people of this provincial capital.

What is serious about the situation is the fact that the 80,000 doses of vaccine requested on an emergency basis a week ago from the National Health Service have not yet arrived.

Two epidemiology specialists are expected to arrive today. They will decide whether or not it is advisable to inoculate the population on a massive basis.

The Osorno Base Hospital is maintaining a strict quarantine and is only treating emergency cases. The general treatment of the population is being carried out at three peripheral centers in the city.

The chief of the health area, Dr Hector Castro Rojas, who was to resume his duties today after a vacation, met with the deputy director of the base hospital, Dr Federico Cataneo [unpublished], and other specialists to prepare a massive inoculation plan for the population, in the event the doses arrive in Osorno today, transported by the epidemiological specialists.

Despite the shortage of resources in the Osorno health area, patrols have been sent to the rural sector to determine the situation on site and adopt measures for the transport of affected persons to Osorno.

Visits to the Osorno hospital have been suspended. All of the hospital's personnel are working 24 hours a day, and the shift system has been suspended.

#### School Absenteeism

According to statements of parents and guardians, high absenteeism is predicted this week for the Osorno schools.

Absenteeism began to be experienced at the end of last week, with a notable decline in student attendance at the secondary school level. Up to Friday, attendance at classes had been normal in the grade schools. It is estimated that attendance at grade schools will also experience a drop starting today.

Health authorities said that this was a greater danger, as classrooms are the best place to detect possible cases. Absenteeism could conceal affected persons.

DIPHTHERIA OUTBREAK NEAR LANCO REPORTED

Inoculation of School Children

Santiago EL MERCURIO in Spanish 10 Aug 79 p C-11

[Article by Nelson Salazar Monasterio]

[Text] Valdivia--Provincial health authorities have detected 10 cases of diphtheria in two towns in this area.

Eight of the cases were discovered in Lanco, a city located 80 km north of the provincial capital. The other two cases were detected in Futrono, close to the northern bank of Ranco Lake, east of Valdivia.

Nine other suspected focuses were detected in the past few days in the urban and rural areas of Lanco.

Five of the Lanco cases are being treated in that city, while the other three, which are more serious, were sent to the Valdivia Regional Hospital where they were confined, as of yesterday.

Health authorities of this hospital supplied no additional information on the subject.

Inoculation

Dr Roberto Gatica Singleton, of the Lanco Hospital, reported that the first cases were detected last Friday in the urban and rural areas, resulting in the immediate inoculation of the entire child population.

At the time, the hospital had 400 doses of vaccine and requested a new shipment from Santiago, which arrived the following day. The health action resulted in the inoculation of the entire school population, estimated at 2,000 persons.

Another emergency shipment of 500 doses was requested for Lanco to continue inoculations in rural sectors.

Medical activity will be concentrated in Purulon and Paquinilahue beginning today.

#### Schools Closed

All schools in the city of Lanco are closed and will remain closed until next week, Dr Gatica added.

There is certainty that the disease will not spread to the rest of the province, although it is feared that this will happen in the city.

The affected children range from 4 to 16 years of age. Diphtheria can affect persons of all ages. For this reason, all adults with sore throats are being checked at the hospital.

#### In Futrono

For his part, Dr Jorge Ruiz Schubbe, of the Paillaco hospital, said that two cases were discovered last week in the hospital's jurisdiction, specifically in Futrono.

He went on to say that this area is one where diphtheria is continually being detected and that periodically the region supplies figures on the subject; however, no new cases were reported yesterday.

This was confirmed by Dr Roberto Martinez Gonzalez, director of the Futrono hospital, who said that an intensive antidiphtheria campaign had been carried out in the area during the last few days.

#### More on Lanco Outbreak

Santiago EL MERCURIO in Spanish 13 Aug 79 p C-1

[Excerpt] According to Dr Guillermo Montenegro Poblete, of the Lanco hospital, the outbreak of diphtheria detected in that city has begun to return to normal.

He said that the diphtheria had been brought totally under control and that only four cases had been confirmed. Two of them are persons who were taken to the Valdivia hospital, where they were confined as of yesterday.

There are many suspected cases in the rural area which are under ambulatory control.

The first phase of the inoculation campaign has been concluded, and the second phase will be completed in another month.

The schools were ordered reopened today, Monday. The schools had remained closed all of the previous week by order of the Lanco health authorities.

A nurse from Puerto Montt visited the city last Friday and verified on site the magnitude of the problem. She will prepare a report which will be forwarded to the regional health authorities, possibly today, Monday.



## HEPATITIS STILL RAMPANT IN CALCUTTA

Calcutta THE STATESMAN in English 24 Aug 79 p 9

[Text]

**H**EPATITIS (popularly called Jaundice), which broke out in Calcutta with the onset of the rains, has shown no sign of a let-up so far. Doctors all over the city report having to treat a large number of cases. The Medical College has reported several cases of pregnant women suffering from infective hepatitis. Some have proved fatal.

A doctor of the Seth Sukhlal Karnani Hospital and a woman employee of the Indian Oil Corporation recently died of infective hepatitis.

Dr G. S. Mandal, head of the Gynaecological and Obstetrics Department, Eden Hospital says that jaundice, a major killer among pregnant women, is causing concern to hospital authorities. The School of Tropical Medicine has been asked to identify the virus. Dr Manish Chakraborty, head of the Department of Virology at the school is conducting the investigation.

Hepatitis is caused more often by virus 'A' than virus 'B'. The former is transmitted through food and water and the latter through blood transfusion and injections. The disease caused by virus 'B' is called serum hepatitis. Doctors say that in Calcutta, blood is not screened before transfusion, as is done in Delhi, Bombay, Madras and Chandigarh. This endangers the patient who receives a transfusion carrying the virus.

Dr M. K. Chhetri says that 10% to 15% of the people in Asia carry hepatitis virus in their blood, against 2% to 4% of those in the

United Kingdom. Also, the syringes used by doctors are not always properly sterilized after injections. Such syringes are carriers of the virus.

## CORPORATION WATER

Calcutta Corporation claims that the water it supplies from its Palta-Tallah network is not contaminated. A liberal dose of chlorine and alum is used to make it safe for drinking. Samples taken either daily or periodically from roadside taps and also from the Palta and Tallah reservoirs have shown that there is nothing wrong with the water.

Dr G. C. Das, health officer of the Corporation, maintains that the fault lies in the underground reservoirs and overhead tanks of houses in the city which are not properly cleaned or disinfected. He says the incidence of jaundice has been high among people living in multi-storied buildings, where the overhead tanks are not regularly cleaned. It is the same with many offices and commercial buildings. Rats and cockroaches have been found rotting in such reservoirs. He suggests that to keep water free from contamination, one should add a matchboxful of bleaching powder to every

1,000 litres of water. After half an hour, the water can be used for drinking.

A general practitioner, however, has his reservations about the quality of water supplied by Calcutta Corporation. Turbidity apart, he has found earthworms in it.

Multi-storied buildings, he said, came up in Calcutta long ago and had their unclean tanks been the source, the disease would have spread much earlier. He has been attending to four hepatitis patients every week since March. And this is unusually high. ~~At least~~ "fected all sections of the society from 'the very rich to the slum dweller'".

He feels that adequate steps are not taken to segregate a patient, who should be confined at least for a month to prevent him from spreading the virus. Children are often sent to school and adults go to their places of work before complete recovery. This is dangerous. This view is shared by other general practitioners.

Dr Chhetri says that about two years ago, no less than a dozen employees of the office of the Accountant-General, West Bengal, contracted hepatitis. The source of infection was the reservoir at the office.

He feels that digging of earth by several agencies may have damaged water pipes and that may have a bearing on the unusually large number of hepatitis cases this year.

Calcutta never had a hepatitis epidemic. Delhi had one in 1956.

## BRIEFS

**GWALIOR CHOLERA AFFECTED**--Gwalior has been declared cholera-affected after two cholera cases and nearly 24 cases of gastroenteritis were reported in the past few days. An intensive anticholera drive has been started in the city.--UNI. [Text] [Calcutta THE STATESMAN in English 25 Aug 79 p 9]

**POLIO VACCINATION SUSPENDED**--The West Bengal Government has suspended polio vaccination all over the State because of shortage of vaccines from the Haffkine Institute, Bombay, according to a Press Note issued in Calcutta on Wednesday. It was stated that all immunization work at the department of Pathology and Bacteriology, SSKM Hospital and other polio vaccination units in the State had been suspended till further order. [Text] [Calcutta THE STATESMAN in English 24 Aug 79 p 4]

**CHOLERA IN BIHAR**--New Delhi, 1 Sep--Five hundred and sixty three persons died of cholera in the northern Indian state of Bihar since July last, according to latest official reports received here. A spokesman of the Bihar State Health Directorate said the number of cholera cases during the last two months totalled 3,249. Of them, 93 died in the flood-affected areas, while 470 persons died in other areas. The spokesman added that six million people had been inoculated against cholera in the state, where one million and a half wells had been disinfected up to August 28. NAB/AFP [Text] [Rangoon THE WORKING PEOPLE'S DAILY in English 3 Sep 79 p 7]

CSO: 3400



HIGH INCIDENCE OF GOITER REPORTED IN EAST LESSER SUNDAS

Jakarta KOMPAS in Indonesian 2 Jul 79 p 8

[Excerpts] Efforts to eradicate goiter in the East Lesser Sundas must be undertaken, in view of the high number of cases. Total elimination is necessary, especially in areas of high incidence, to avoid serious physical and mental problems.

Dr Chaerul Yoel, chief of the People's Health Center of Boawae, Ngada Regency, explained that based on a 1978 study of the incidence of goiter, when he was still a staff member of the Ngada Regency Health Service, it was determined that the incidence of goiter in several villages of Ngada Regency was very high.

The study, which sampled two elementary schools, Rakateda I and Langa, found that more than half the pupils between 6 and 16 years of age in both schools were affected by goiter of various types. Of 212 pupils at Rakateda I, 52.7 percent suffered from goiter, while 58.9 percent of Langa's 209 pupils were affected.

More male pupils at both schools were affected, particularly between the ages of 13 and 16. The condition grows increasingly worse as they grow older.

Dr Chaerul estimates that there are at least four subdistricts in Ngada where the incidence of goiter is very high, striking persons of both sexes and various age groups. The four subdistricts are all located in a volcanic area. Reportedly, there is a shortage of iodine, which is the primary cause of goiter.

The two schools sampled are both in a volcanic area.

9197

CSO: 5400

INCIDENCE OF GASTROENTERITIS IN BOGOR INCREASES

Jakarta KOMPAS in Indonesian 3 Jul 79 p 8

[Excerpt] The incidence of gastroenteritis in Kodya Bogor is increasing. As of the end of June, 17 people have died, including 8 in June.

According to Dr Sudradjet, chief of the Bogor City Health Service, 73 persons have contracted gastroenteritis. All subdistricts in Kodya Bogor have been affected. The hardest hit has been East Bogor subdistrict, where 23 persons have fallen ill and 4 have died.

According to Dr Suradjet, gastroenteritis is caused by the cholera bacillus. To control the number of victims, the Bogor Health Service has been carrying out a mass vaccination program, treating water supplies; checking sanitation in cooperation with the authorities in the Kodya Bogor District, and carrying out a cleanup week in each subdistrict.

9197

CSO: 5400

## JORDAN

### BRIEFS

EIGHT CHOLERA CASES--Amman, 5 Sep--Jordanian health minister 'Abd al-Ra'uf al-Rawabidah announced at a press conference in Amman today that eight cholera cases have appeared in Jordan. He said that he expects this figure to increase. The health minister said that these cases appeared during the last few days and are to be found mainly in the farms of the al-Karamah area in the Jordan valley. Al-Rawabidah said that some of the cases have reached Jordan from neighboring Arab countries. He said that a committee headed by the acting prime minister will meet tomorrow, Thursday, to discuss preventing the epidemic's spread. [Doha QNA in Arabic 1228 GMT 5 Sep 79 JN]

CSO: 5400

## BRIEFS

MEUANG NGOI SMALLPOX VACCINATION--The vaccination unit of the [Meuang] Ngoi District Hospital in Luang Prabang Province carried out health work and popularized health principles of the "three-clean movement" in the production base areas within the district on 32 occasions in the first 6 months of the year. Some 12,273 persons came to listen to them. Some 25 villages were trained as "three-clean movement" villages, 85 people were trained as health combatants and 8 campaigns to stamp out epidemics were carried out involving 13,365 people, of whom 8,512 were vaccinated against smallpox. [Excerpt] [Vientiane KHAOSAN PATHET LAO in Lao 20 Jul 79 p A 4]

OUDOMSAI HEALTH WORK--In the first six months of this year the medical cadres of the [Meuang] La District Hospital in Oudomsai Province promoted their initiative and high sense of responsibility in treating patients at all times. They did a good job of treating hundreds of patients, making examinations and dispensing medicine on over 7,000 occasions. They gave inoculations and smallpox vaccinations to 3,427 people. In addition to treating the inpatients, they set up mobile medical units on six occasions to take care of the working people's health in the production bases. By going to the base areas, these cadres, aside from treating patients, also spread the "three-clean health movement" to a large number of people. They trained three cantons as "three-clean" cantons, 36 "three-clean" villages, 75 "three-clean" families and put together 15 village medical kits. Presently they are diligently emulating to treat the sick. [Text] [Vientiane KHAOSAN PATHET LAO in Lao 24 Jul 79 p A 3]

LUANG PRABANG MALARIA--Since 14 July, the Luang Prabang Public Health Department sent mobile medical cadres to join medical units in eight districts: [Meuang] Nan, Xieng Ngeun, Pak Ou, [Meuang] Ngoi, Phon Sai, Oudomsai, Chomphet and Pak Xeng to give vaccinations and provide treatment to people in the production bases and places far from hospitals. Aside from that they treated people with malaria, conjunctivitis and intestinal disorders. They also took the time to teach the "three-clean health movement" and many people came to hear them. This was done to make the people aware of safeguarding their health and to have the strength to do a good job of transforming and building socialism. [Text] [Vientiane KHAOSAN PATHET LAO in Lao 26 Jul 79 p A 4]

BRIEFS

ENCEPHALITIS DEATHS--Biratnagar, 10 Aug--Encephalitis has reappeared in the town area this year also, reports RSS. Cases of the disease have been reported to the local hospital, while two persons have already died of it, according to town Panchayat sources. [Excerpt] [Katmandu RISING NEPAL in English 11 Aug 79 p 1 BK]

MALARIA OUTBREAK--Janakpurdham, 10 Aug--Malaria is reported to have broken out in various parts of Dhanusha, Mahottari and Sarlahi districts, reports RSS. Three hundred malaria cases have already been recorded in these districts in the last three weeks. [Excerpt] [Katmandu RISING NEPAL in English 11 Aug 79 p 3 BK]

DEATHS FROM GASTROENTERITIS--Katmandu, 20 Aug (AFP)--At least 60 persons including children and women have died of gastroenteritis to date in Dhanusa and Mahotari districts 160 km southeast of Katmandu bordering Bihar, it is officially learnt. This infectious disease has spread in about 12 villages including Sankhuwa, Mahendranagar, Chakkar, Lohan, Pathi, Ghodghas, Parsa, Katiya and Patiliya in far southwest Nepal low-land tropical areas. According to the report, the central government has however failed to supply medical teams and necessary medicines to control the disease. [Hong Kong AFP in English 1013 GMT 20 Aug 79 BK]

CSO: 5400

POLIO CASES REPORTED; VACCINATION CAMPAIGN UNDERWAY

Panama City ACAN in Spanish 1924 GMT 5 Sep 79 PA

[Text] Managua, 5 Sep (ACAN-EFE)--The Nicaraguan public health ministry has taken measures to neutralize a poliomyelitis (infantile paralysis) outbreak, detected in five cities. Ronald Tenorio, head of the epidemiology department, told ACAN-EFE today that so far about 47 children have been reported ill but noted that only 7 cases had an affirmative diagnosis. The others are under observation. Fifty percent of the cases are from Managua. The others are from Leon and Chinandega in the west, Esteli in the north and Jinotepe in the south.

Three of the polio patients had received three vaccine dosages last year and three others had received two dosages, which shows the vaccine was poorly stored away as well as the criminal indifference of the Somoza dictatorship concerning the health of Nicaraguan children, Doctor Tenorio reported.

After noting that "children will have a privileged position" under the new regime, the epidemiology department head said that more than 90,000 children were vaccinated in Leon and Granada departments, in the east and in Managua. It was considered "very positive" that 75 to 91 percent of children from 1 day old to 5 years of age, according to polls taken by the Sandinist defense committees, were covered.

Greater results were not obtained because some neighborhood committees were poorly organized and some of the children were indisposed.

The official added that during the next 3 days a second visit has been planned in those areas and for the rest of the country on 26 September.

Poliomyelitis or infantile paralysis is an endemic disease in Nicaragua. The highest number of cases, about 500, was reported in 1964 with a high mortality rate.

CSO: 5400

ONCHOCERCIASIS IN SAY ARRONDISSEMENT

Niamey LE SAHEL in French 10 Aug 79 pp 4,5

[Article by Abdoulaye Boureima: "A Threat to be Eliminated"]

[Excerpts] In Diongore, a small village about a score of kilometers from Say, the inhabitants are living through a drama: Blindness. Here, more than anywhere else, the threat has emerged fully and specialists are of the opinion that, if urgent major steps are not taken, one or two generations will run the risk of being sacrificed. Niger is aware of this and is making a tremendous effort to stop this evil. Here, people become blind between the ages of 35 and 45. The causes of the disease are known; the fly--the sand-fly--is the principal carrier. When that fly stings a human being, it transmits a parasite worm which the specialists call "onchocercos Volvules."

We know what happens next because the clinical manifestations of this disease are never deceptive: Severe itching, depigmentation of the skin, followed by the formation of nodules after which come ocular lesions which finally speed up the process of blindness.

The fact is that onchocerciasis, which turns out to be very severe in the region of the Volta Basin, is made even worse above all by the very severe humidity prevailing in that area. There are many water bodies here--the Sirba, the Goroubi, the Diamangou, the Mekrou, the Niguibiri, and the Tyenetyegal--and they greatly favor the development of larvae whose biggest breeding grounds were found at Bolsi (Sirba) and Tamou (Goroubi).

Of all of these flowing waters, the Goroubi seems to be the biggest since it covers almost all of the district of Say which has a surface of 15,000 square kilometers. The recent visit by the prefect of the Department of Niamey, Capt Amadou Seyni, to the areas irrigated by the Goroubi, is not a simple coincidence. Prefect Amado Seyni had come here to see for himself what steps had been taken to wipe out the breeding grounds of the



larvae and to brief the people stricken by blindness about measures which the authorities are planning to take in order, if not to lighten their burden, then at least to keep the infections down.

### Destructive Effect

The problem is grave, very grave, because, in addition to the suffering which it inflicts upon the people, onchocerciasis according to Mr Gado Boureima, a young economist assigned to the prefecture of Niamey, it has a doubly destructive effect in economic terms. "Villages that are stricken with blindness," he says, "only have a reduced production capacity while many become wards of the community."

Capt Amadou Seyni indicated that "certain towns are forced to leave fertile land and settle on poor and unproductive land in order to seek protection against being stung by flies."

This migration is far from favorable for the agricultural population and does not enable the migrant groups to obtain even halfway suitable subsistence. To remedy this situation, a major campaign was undertaken to brief some people and to alert others to the drama experienced by the people in the district of Say. A potentially viable district, which however is difficult to reach and where people live and suffer onchocerciasis, is lacking running water, of all things. This is rather strange perhaps but in this region, with a tremendous agricultural and mining potential, running water is in very short supply during the dry season especially. This is due to the fact that the district of Say is in Lipatako-Gourma where the bedrock is granitic or ferruginous in certain places.

Here is another problem: The region is completely land-locked and there are only two roads or, more accurately, tracks, that is, Niamey--Say--Tapoa and Niamey--Torodi--Makalondi.

These two tracks run north-south whereas the population is concentrated along the tributaries of the Niger River which flow from west to east.

There are many problems here and all require suitable solutions.

### Slowing Development Down?

The development and improvement project for the Say district was designed with this perspective in mind. This project, which was launched in 1974, apparently was tacked on to the program for the first against onchocerciasis. The basic idea is to destroy the endemic foci in order to make the land profitable since it has been found that "blindness along the banks" drives the people away. Studies financed by the UNDP were undertaken not only with regard to economic and human resources but also on the pedological and hydro-geological levels.



But since then, we were told, "people have begun to pull back."

The consequence of this education was the reorientation of the original objective in 1977 which until then had been spelled out by specialists who were ignorant of what was really going on there. The Niger technicians thought that "the development project for the Say region can be carried out only with the participation of the local population." In the meantime, what action program should be drafted to stop onchocerciasis which constitutes an obstacle to the region's development?

The WHO, international organizations (UNDP, USAID), and quite a few foreign countries were alerted to the evil effects of onchocerciasis. This is a disease which can be found not only in Niger but also in Upper Volta, Benin, Mali, Ivory Coast, and Nigeria.

The "Oncho" project was provided with logistic support so that eradication drives might be launched particularly with the help of insecticides along the river banks where the larvae of the carrier multiply rapidly.

In the subsector of Niamey, a helicopter every Wednesday treats the breeding grounds of the larvae in the Diamangou, Tapoa, Mekrou, and Goroubi. The prefect of the department of Niamey, Capt Amadou Seyni, was briefed on the various action methods during his on-the-spot visit.

This helicopter is equipped with a very modern spraying system and in just 5-7 days it can cover all hydrological zones between Benin, Niger, and Upper Volta.

Insecticides which are not toxic make it possible to eliminate only the larvae which "settle" on the branches of vegetation or rocks near the water. It is actually these larvae which are dangerous and, after pupation, the insecticides can no longer wipe them out. These pupae produce flies which, during their normal lifetime (23 days) perpetuate the parasites. A vicious circle, indeed. What about medication? They are being used but some specialists believe that they are hardly effective. This is true particularly of nethozine, a product which is supposed to prevent the eye lesions caused by nodular macrofilaria. Phenergan is also used but it hardly seems to do anything to onchocerciasis which keeps gaining ground.

Some villages are quite aware of the danger from the flies but they prefer to be struck blind rather than go to healthier parts of the country.

It is not impossible that, in view of the development strategy promoted as part of the Say district development and improvement project, the calvary of the peasants will be ended at last.

During the first phase it is necessary to set up the entire supporting structure capable of creating conditions necessary and sufficient for the

revival of agricultural activities so as to bring about self-sufficiency in food. "It is wrong," we were told on this subject by Mr Gado Boureima, "to supply the district of Say from the outside while the region is very viable and can even become Niger's future granary." For the time being, the fact that this district is so cut off can enable us to say without risk of being wrong that production is being carried out only with a view to on-the-spot consumption. To break this habit, the Say project is aimed at increasing the food output especially through crop diversification.

Special emphasis will also be placed on increasing the cattle population which in turn is suffering from trypanosomiasis. The Say project, which has been given close to 17 million francs CFA [African financial community] this year, could within a more or less short period of time lay the foundation for a food balance between the various parts of the district.

5058

CSO: 5400

## BRIEFS

**SUSPECTED CHOLERA CASES**--An out-break of a disease, suspected to be cholera, has been reported in Ihenta-Akaze in Ohazara Local Government, Imo State. According to the reports, the epidemic has already claimed 10 lives. The reports further said the affected community had sent an SOS to the Ohazara Local Government to come to their rescue. Similar appeal had also been sent to the state's Ministry of Health, the source said. But the senior consultant, (health), Dr R. A. Eke, told the Daily Times in Overri that his department had not received any report about the out-break of the disease from any part of the state. "However," he assured, now that you have alerted us, we shall mobilize all the forces at our disposal in readiness for action whenever we are officially informed of the incident." Dr Eke believed that the council health department had been able to contain the situation, hence no report had been lodged with his office. [Text] [Lagos DAILY TIMES in English 23 Aug 79 p 24]

CSO: 5400

## MAYOR CLAIMS SUFFICIENT WARNING ON MEASLES GIVEN

Salisbury THE HERALD in English 3 Sep 79 p 6

[From the "Letters to the Editor" column: "Warnings on Measles Have Been Given"]

[Text]

SIR — The Herald asks (Leader August 30) if "it can fairly be asked whether sufficient efforts have been made not only in recent months but in recent years to warn people of the measles danger" and states "we have no record of any other warnings to the public until the middle of this month".

Referring first to the major health reports issued in this country — the report of the Secretary for Health is published each year in September or October, and sets out the areas of concern and records the activities in the preceding calendar year, and the report of the City Health Department is published in April or May, also for the preceding year.

Since the publication of the Secretary for Health's report for 1977 was available to the Press and the public, the report of the City Health Department for 1978 has been published.

This report, which has been widely distributed, was available in May 1979 and included a number of comments about measles, in addition to recording the varied activities of the department in other fields.

In all 24 945 doses of measles vaccine were used. All mothers are told that prevention is the most effective way of ensuring their children's wellbeing.

On page 74 of the report details are given of the care of measles in the Beatrice Road Isolation

House and this section ends with figures for a survey of the vaccination record and nutritional state of the children who died of measles.

Deaths due to measles:

	Vaccinated	Unvaccinated
Malnourished	6	29
Well nourished	3	20

The comment made in this table was to the effect that "The nutritional state of the child is obviously the key to the outcome in measles, but this should not be allowed to cloud the issue in respect of the importance of measles vaccine for all children regardless of their nutritional state".

The council is attempting to enlist the active co-operation of residents in keeping the city clean, because the quality of life in Salisbury will depend to some extent on how people treat their own city.

There are limits to what the local authority can do — if everyone drops refuse in the streets then there will never be enough sweepers to keep them clean.

Likewise there are limits to the amount of health publicity which will

be read and acted on by the public at large.

In attempting by judicious publicity to enlist public co-operation, the council runs the risk that it will be labelled as an interfering busybody always telling people what to do.

Once this stage is reached then all health publicity will fail.

More than once the department has quoted Professor Thomas McKeown who says, from a position of great authority, after a lifetime of public health practice, that "improvement in health is due not so much to what happens when we get ill but to the fact that we do not become ill so often."

Modern man, particularly in urban areas, is becoming increasingly reliant on having things done for him.

#### PERSUASION

It is time to change this approach by persuading individuals to do the maximum for themselves, leaving the residual functions, which cannot be coped with by individuals, to the local authority.

How many times must the public be told?

Measles vaccine is

widely available free of charge in this city. Very few people can honestly say they have never been told that measles is an important disease and can and should be prevented.

All over Africa the mortality and permanent damage to health due to measles is enormous, and despite intensive care and detailed study treatment is not always successful even in the hands of the most competent specialists.

(Councilor) J. P. WHITTING.

Mayor of Salisbury.

● The Mayor has not answered our question. We do not dispute that there are official annual health reports, but how many of the parents of susceptible children read these in their original form or even in newspapers?

We rephrase our question: How many posters and public notices exist at this time in local government areas, at bus stops and in buses, at football stadiums and other places where crowds gather?

Are warnings given over the radio?—Editor,

## BRIEFS

DROP IN TB INCIDENCE--There has been an annual five percent drop in the number of tuberculosis cases among blacks in Johannesburg, according to the MOH for Johannesburg, Dr B R Richard. In a report in the latest edition of the South African National Tuberculosis Association magazine, he said only 426 cases of 9 880 TB sufferers needed to be hospitalised. The reason for the drop in TB cases was the health department's "intensive fight against the disease in black townships." The report adds that 4 354 patients are receiving treatment while working or as out-patients, and another 5 100 cured cases are being kept under X-ray surveillance to check recurrence. [Text] [Johannesburg THE STAR in English 15 Aug 79 p 5]

CSO: 5400

SOUTH KOREA

BRIEFS

'OUTBREAK' OF ENCEPHALITIS--Seoul, Aug 17 (HAPTONG)--The year's first outbreak of encephalitis, a mosquito-borne sleeping sickness, was reported Thursday in a remote coastal township of Wolsung, North Kyongsando Province, health officials said. The victim was a 12-year-old girl named Kim Yong-suk who was immediately admitted to the Kyongpuk University hospital in Taegu with symptoms of encephalitis, high fever and vomiting. The disease a summer epidemic in Korea, had infected 41 persons, mostly children or the aged, and killed two last year. [Text] [Seoul HAPTONG in English 0142 GMT 17 Aug 79 SK]

CSO: 5400

## SPAIN

### CHOLERA OUTBREAKS REPORTED IN BARCELONA

#### Morocco Possible Source

Rangoon THE WORKING PEOPLE'S DAILY in English 27 Aug 79 p 2

[Text] Madrid, 25 Aug--Spanish health experts said today they believed outbreaks of cholera in Malaga, south Spain, and the port of Barcelona, originated in Morocco where they alleged there was currently a cholera epidemic which had not been declared to the World Health Organization.

The Director of the Civil Hospital in Malaga, Enrique Queipo de Llano, told AFP that "60 positive cholera cases had been diagnosed by 1000 GMT today."

He added that "some people have been given hospital treatment for shock, but the disease has developed normally and none of them is seriously ill."

#### Difficulties

Medical sources in Malaga said that between 400 and 500 cases of gastro-enteritis were treated last month and that this added to the difficulties of identifying cholera cases.

However, experts at the Malaga Hospital affirmed that the outbreak definitely originated in North Africa.

The civilian Governor of Barcelona Province said that some ten cholera cases have been officially confirmed in the area during the last ten days, adding that all were out of danger.

Earlier a report in the EL PAIS paper said a total of 27 people in Malaga and Barcelona were being treated for cholera, adding that three patients in Malaga were seriously ill.

#### Latest cases

The Barcelona Governor told AFP the two latest cases were confirmed last night in a Barcelona hospital, adding that the worst affected area was in the Barcelona suburb of Llobregat, the local fruit- and vegetable-growing area.



Well-informed sources in Barcelona said the outbreak began after cholera-carrying Moroccans visited the area.

They said Morocco was currently suffering from a cholera epidemic which had not been declared to the World Health Organization, and it was recalled that two Moroccans suffering from cholera were treated last month at the Red Cross Hospital in north Morocco.

In the area around Barcelona health measures concerning the water system have been taken.

The Spanish Health Ministry was expected to issue a communique shortly, well-informed sources said.--NAB/AFP

#### Other Causes Sought

Manila BULLETIN TODAY in English 26 Aug 79 p 7

[Text] Parcelona, Northeast Spain, Aug. 25 (AFP)--Hospitals here and in Malaga, South Spain, are treating 27 people for cholera and three of the patients are in a serious condition, the EL PAIS newspaper reported today, quoting medical sources.

The report quoted unofficial sources at the civil hospital in Malaga as saying that 20 cholera victims were being treated here including a child, a girl, and an elderly woman who were seriously ill.

The civilian governor of Barcelona province told the paper that seven Spaniards had been taken to hospital suffering from cholera since Aug 17, adding that their condition was improving.

A Health Ministry communique, however, referred to only being affected-seven in Malaga and four in Barcelona, and added that all were doing well.

The EL PAIS paper reported that the authorities were now examining drinking water supplies and beaches on the Costa del Sol in Southeast Spain.

Sources at the Malaga hospital said that there were between 400 and 500 cases of gastroenteritis in the region in June.

The four latest cholera cases admitted in Malaga were sailors from foreign vessels.

The Health Ministry communique said the first two cholera cases to be diagnosed were treated at the Red Cross hospital at Melilla in north Morocco which they left at the end of July.

These two cases were reported to the World Health Organization, the ministry said.

## PHYSICIAN SHORTAGE SURFACES AS INTESTINAL INFECTION SPREADS

Istanbul AKSAM in Turkish 16 Aug 79 pp 1,7

[Text] Erzurum (Turkish News Agency): Following the resignations of doctors opposed to the full-time law prepared and instituted by the Ministry of Health and Social Welfare, a shortage of physicians has begun to be felt, and a number of services offered by large hospitals in the Eastern Anatolia region have been closed down, as have some district hospitals. In the Erzurum Numune Hospital, the only comprehensively equipped hospital in the East Anatolia region, the pediatrics, internal medicine, ophthalmology, ear nose and throat, infections diseases, dermatology, and neurology services have been shut down. No physicians have remained in the Numune Hospital other than Dr. Halil Guzelsoy in the neurology service and Drs. Yucel Sengul, Cemil Cil, and Selahattin Celik in the obstetrics and gynecology service.

While doctors in the X-ray, external medicine, and internal medicine sections of the Erzurum Social Security Organization Hospital are all on strike, the other services are staffed with interns. It has been learned that Dr. Koptagel Ilgun, who is continuing his duties as Chief Physician at the Social Security Hospital, will resign after he returns from Europe. It has also been reported that X-ray specialist Mecit Bumin has applied for retirement. The situation of former MSP [National Salvation Party] Deputy Zekai Yaylali is not yet clear.

It has become evident that the hospitals in the Oltu, Horasan, and Hinis districts of Erzurum have closed due to the lack of physicians, and that, in each of them, there is only an intern operating a polyclinic.

The epidemic of Infectious Gastro-enteritis is out of control:

The intestinal infection which first occurred among children in the region of Eastern Anatolia has spread to adults as well. It has been learned that hundreds of people per day are applying to hospitals, but that, due to the lack of physicians, the disease is gradually spreading. Patients transferred from the Numune and Social Security Organization hospitals to the Research Hospital have not been treated in the Research Hospital unless they deposited money into its circulating capital fund, and thus some patients have had to return to their homes without being treated due to lack of money.

## ACTIVITIES OUTLINED IN FIGHT AGAINST CHOLERA

### Port Closed

Kinshasa Domestic Service in French 1815 GMT 25 Aug 79 AB

[Text] The port of Kingabwa will be closed by decision of the Barumbu Zone commissioner, Citizen Nsimba Binwala, in order to avert the cholera epidemic. The zone commissioner also announced to the press his decision to close three hotels in Barumbu, notably the Cafe Zoao, Finazd and Ideal hotels for failure to observe the hygiene and public cleanliness measures taken by the municipal authorities within the framework of its struggle for cholera prevention. It is recalled that a committee was set up to coordinate the actions of the authorities in this regard.

### Assistance Team Set Up

Kinshasa AZAP in French 1700 GMT 29 Aug 79 AB

[Text] As a contribution to the struggle carried on by the (?council) in order to stop the [word indistinct] of cholera (?cases) which has illustrated itself by many death cases for almost a month now, the Kinshasa Bureau of the Zairian Red Cross has put at the disposition of urban authorities a team of relief workers whose mission is to collaborate with the urban hygiene service in charge of vaccinating the population of Kinshasa.

The national commander of the Red Cross relief workers who disclosed this information hinted that a study is in progress at the level of the national bureau concerning the dispatch of teams to the distressed areas.

### Meeting on Cholera

Kinshasa AZAP in French 0735 GMT 29 Aug 79 AB

[Excerpt] The commissioner of Limete Zone, Citizen Bossekota Wa Lokilo, today presided over a meeting attended by all local representatives, the leader of JMPR [Youth of the Popular Movement of the Revolution], and the

territorial commanders of the area. Citizen Bossekota pointed out to those in attendance their responsibilities for making the public aware of the need for good hygiene in order to prevent cholera. The commissioner of Limete Zone, who passed out the instructions of the urban commissioner concerning the campaign against the disease, called on his colleagues to make the public aware of the preventive measures they should follow in order to wage a fight against cholera. He also stressed the following points: Eradication of the risks [of infection] caused by feces; purification of water and the washing of foods served uncooked; and the education of the masses on eliminating breeding grounds for diseases, for example the market places. In this connection, a commission composed of trainee sanitation technicians from the Medical Institute was set up to investigate possible cases of the disease.

CSO: 5400

ZAIRE

CHOLERA DEVELOPING PROBLEM FOR CITY OF KINSHASA

[Editorial Report] The 9 August 1979 issue of the Kinshasa French-language daily ELIMA devotes the entire page five to the cholera situation. One of the articles describes the difficulties the reporters had in getting to talk with officials. Another says that the cholera began on a river boat, the ITB Tshatshi, which had a capacity of 800 people but which was loaded with 3,000 people. Part of the cargo was 240 tons of fresh fish, beans, rice, etc. plus goats, sheep, and poultry, the article said, and the food had to be destroyed because of contamination. When some fishermen were caught making off with some of the food found in the river, it was determined that the food had to be burned. The third article dealt with causes of cholera.

CSO: 4400

## SERETSE DISCUSSES FOOT-AND-MOUTH, TSETSE CONTROLS

Gaborone DAILY NEWS in English 18 Jul 79 p 1

[Excerpts]

The Honourable Minister of Agriculture Mr Lenyeletse Seretse recently disclosed that there is not a further outbreak of the foot and mouth disease. Addressing a North West District Council meeting in Maun, before going to attend a FAO conference in Rome, Mr Seretse said that there had been concern that the disease might have re-occurred in the Hainaveld. "But tests have showed negative results," he said.

The foot and mouth disease outbreak first occurred in November 1977. Following the outbreak, European markets suspended Botswana beef exports until the disease was eradicated. However, after tough negotiations, the EEC agreed to resume purchasing Botswana beef, except from cattle in the Ngamiland area.

The Honourable Minister further revealed that checks and tests are being continued so long as no positive signs of the disease are found, arrangements for the sale of some cattle from Ngamiland and Rakops areas in August and September would be made, he added.

In essence, we will arrange for cattle to be sold from Ngamiland to the BMC and BLDC, who will be clearing their cattle out of Makalamabedi and Odiakwe to make room for these cattle and those held over from the P50 scheme," explained Mr Seretse.

He further stated that costs of sending cattle direct to the BMC will be approximately P40 per animal. He added that there may be many cattle owners who will prefer to sell direct to BLDC, who are prepared to buy cattle at Makalamabedi and other buying points in Ngamiland.

Explaining on how the Government intends to clear Tsetse Fly, the foot and mouth disease and control the movement of cattle and animals, Mr Seretse revealed that the cost of Tsetse fly clearance and the buffalo fence will be about P10 million. He said the project would take about four to five years.

Minister Seretse said that it is now technically feasible to clear the fly. He added that he would soon go to Cabinet to seek approval and funds for a clearance programme.

The Minister further noted that the clearance of Tsetse fly is socially and medically desirable.

He stated that once the Okavango has been freed of the fly wildlife and cattle should not be allowed to mix. He added that in the interest of the people of the North West District and the nation as a whole, "we cannot afford to have recurring outbreaks of foot and mouth disease." He said that to avoid further outbreaks of the disease, cattle and wildlife should be kept apart in the Okavango area.

To achieve this we propose to build a buffalo fence running from the Gomare area to the west and south of the delta and then across the country to the Zimbabwe border," said Mr Seretse. He assured the meeting that the fence will leave ample areas for cattle adding, "Fencing is a vital factor in any eradication scheme for Tsetse."

There will be no purpose in removing the menace of the Tsetse, if "we merely replace it with a constant and endemic foot and mouth in this area," he explained.

"We will have our new vaccines to restrict and control foot and mouth, but to our high priced overseas markets, unless there are clear acceptable means of showing that cattle and wildlife in this area are kept separate and disease is kept under control," Minister Seretse stressed.

CONTROL MEASURES AGAINST CONTAGIOUS DISEASES IN ANIMALS

Sofia VETERINARNA SBIRKA in Bulgarian No 7, 1979 pp 3-5

[Article by Dr I. Ivanov, TsNIVMI [Central Scientific Research Veterinary Institute]: "Immunoprophylaxis in Industrial Animal Husbandry"]

[Text] Industrial animal husbandry complexes and the nature of their technological process faced veterinary medical science and practice with new problems in the struggle against contagious diseases. Under the conditions of the industrial breeding of livestock and poultry the danger of mass diseases arises, for the concentration of large groups of animals increases possibilities for the appearance of various infectious diseases and for the rapid dissemination of infection agents. It would be unnecessary to discuss in detail the significance of contagious diseases in industrial animal husbandry. Let us merely emphasize that economic losses should be measured not in terms of mortality or morbidity but decline of productivity, triggered not only by obvious but subclinical infections. At the same time, we must bear in mind that some of the infection agents are dangerous to man as well. That is why veterinary medicine is faced with the mandatory task of developing and applying methods for prophylaxis and protection of livestock animals and poultry.

Immunoprophylaxis is of tremendous importance in upgrading resistance along with measures aimed at the sources of infection and the means for its dissemination.

The importance of specific immunoprophylaxis in industrial animal husbandry is emphasized by the circumstance that, considering the size of animal husbandry complexes and their technological connections, quite frequently measures aimed at the source of an infection and the means for its dissemination are very difficult to implement.



From the epizootic viewpoint, immunoprophylaxis in industrial raising of cattle and poultry must be developed in the following two more important directions:

Ensuring immunity against acute and dangerous contagious diseases which occasionally enter the country and represent a direct threat to the farms. This includes glanders in cloven-hoofed animals, rabies, hog plague, sheep measles, pseudoplague, Marek's disease, and poultry measles--diphtheria;

Immunity to infectious diseases whose agents penetrate through unnoticed or visible infections affecting some animal groups. This includes coli, salmonellosis, pasteurellosis, and leptospirosis infections, affecting all animal species, contagious gastroenteritis and erythema in hogs, necrotic hepatitis, enterotoxemias, listeriosis, gangrenic mastitis and contagious ecthyma in sheep, infectious rhinotracheitis (IBR), mucous disease (MEVD) RTZ adenoviruses, viral mitra and mouth infections, emphysematous gangrene in cattle, infectious bronchitis in poultry, etc.

Immunoprophylactic measures against acute infections must be planned and implemented specifically for each one of them, depending on the threat facing the country or the individual farm. Thus, for example, the vaccine against hoof-and-mouth disease should be administered in the border areas mainly after reports received from neighboring countries and specifically directed at the strain threatening us. Intensified international transportation, trade, and tourism, however, frequently render border immunization areas helpless, for which reason entire areas must be vaccinated inside the country. Some countries have converted to regular prophylactic blanket immunization of cattle against hoof-and-mouth disease using the AOS vaccine. However, this measure has its positive and negative aspects, as a result of which we must review our immunization tactic against the hoof-and-mouth disease on the basis of specific epizootic characteristics in our country. The decision of whether to implement this measure regularly, covering the entire herd, or partially, should be made, above all, on the basis of the economic aspect.

Currently rabies can penetrate inside our country mainly through foxes in the border areas where their number is quite large. Along with the destruction of foxes and of ownerless rambling dogs, the mandatory immunization of registered dogs in these areas should be introduced.

Sheep pox may surprise us mainly from the south. That is why maintaining immune zones through the annual vaccination of the sheep in areas bordering Greece and Turkey must be continued.

However, plague in hogs presents a different problem. In the past ten years we have engaged in the blanket immunization of hogs as a result of which immune and semi-immune herds were developed. In some of them the virulent virus may be found in a seemingly asymptomatic form, as a result of which,

occasionally, the infection develops in a restricted and atypical fashion. We must discuss the possibility for the systematic reduction of vaccination, leaving nonimmunized farms in whose areas no plague has been suspected for a number of years, as is practiced in Hungary. This is the only way for the elimination of the virus of the classical hog plague in our country.

The viruses of the pseudoplague, acute Marek disease, and pox diptheria in poultry are a constant threat facing industrial poultry farms. This calls for systematic regular vaccinations to raise the resistance of the poultry to such diseases.

The study of immunoprophylactic measures against the second group of infections--stationary and conventionally pathogenic--indicates that a specific approach must be adopted toward them as well. Thus, for example, anti-anthrax vaccinations should be reduced substantially as the result of the so far successful antiepidemic measures and the partially reduced raising of live-stock in pasture grounds. Such immunization must be provided only in stationary centers where no cases of anthrax have been registered over the past 20 years. Vaccination for cattle emphysematous gangrene will be expanded in stationary areas as a result of the expansion of calf fattening through mountain grazing.

Vaccinations for sheep enterotoxemias and hog erythema must be continued, covering the entire herd of exposed animals. This is necessary, for the agents of such diseases are widespread both through carriers and in the environment, and such infections are essentially endogenic in nature. Seasonal vaccinations must be given for necrotic hepatitis in sheep, which appears in specific areas only where the sheep are subjected to fasciola hepatica.

As the result of the extensive use of the MK live vaccine and of the inactivated ethanol-saponin vaccine, the contracting of Aueski's disease by hogs has been reduced to sporadic cases. In the next stage, we must launch a struggle for the elimination of this infection by combining immunoprophylactic measures with the separate raising of the growing herds, combined with improvements in hog breeding. That is why we must seriously review our tactics in the struggle against Aueski's disease and the extent of immunoprophylactic means used.

It was confirmed that the live vaccine developed in our country can be effectively used in the struggle against the annually expanding sheep listeriosis in the winter and spring. That is why prophylactic vaccinations for this disease must be expanded, mainly in December and January.

Vaccinations for contagious ecthyma, which develops extensively in fattened lambs, are underestimated substantially without reason. Even though this is not a lethal disease, it has a very adverse effect on their weight. That is why in this case again we must vaccinate pregnant sheep and lambs in stationary foci and of all lambs brought together for fattening.

The use of immunizing facilities (attenuated and inactivated vaccines) against infectious rhinotracheitic and mucous disease is restricted and hindered by the poor familiarity with such diseases on the part of practicing veterinarians and the lack of reliable expert diagnosis by institutes and stations. Furthermore, their use is neither planned nor recorded. As a result of this losses are rising further and further. That is why we must convert to keeping mandatory records of such infections and provide mandatory vaccinations in affected farms. Live vaccine must be used in calves, heifers, and cows, while inactivated vaccine should be used on pregnant cows only. Along with such vaccinations in cow farms in which [Plz] adenoviruses are of pathogenic importance, vaccination with proven harmless live vaccines may prove to be useful as well. Due to the unexpected outbreak of respiratory enzootics in calves in some farms and the insufficiently developed diagnosis, we use hyperimmune serums in their outbreak, treating the sick and the contact animals. Unquestionably, however, in the future, as diagnosis improves and as planned prophylactic vaccinations for respiratory diseases are introduced, the use of serums will be limited drastically and, subsequently, eliminated.

Leptospirosis in hogs and cattle is quite widespread in the country. However, immunoprophylactic measures against it are limited and insufficient. This is wrong.

The immunoprophylactic means indicated so far, produced in Bulgaria, proved to be effective over a long period of time, when applied in the field. However, the use of inactivated vaccines against salmonella infections in sheep and hogs, gangrenous mastitis in sheep, staphylococcal mastitis in cows, and coli-infections in newborn calves and pigs presented a different problem. The effect of such vaccines is weak, for which reason their production must be terminated. Since other countries have already developed effective immunoprophylactic means against such diseases, the problem of their development in our country must be resolved. This applies to the development and use of effective vaccines for the respiratory-syncytial viral infection, the viral mitra and stoma enteritis in calves, transmissible gastroenteritis in hogs, rhinopneumonia and influenza in horses, distemper and adenoviral hepatitis in dogs, vesicular disease in hogs, Gumboro disease in poultry, infectious laryngotracheitis and infectious bronchitis in poultry, infectious epididymitis in rams, enzootic viral abortion in sheep, vibriosis in sheep and cows, etc. We must perfect and steadily improve a number of antiviral and bacterial vaccines and promote the development of new associated vaccines.

The development of such vaccines could be successfully accomplished only through the proper direction and intensification of scientific research in our microbiological, virological, and immunological fields which, unfortunately, are lagging in some problems. This has been the reason, for example, that in the field of citobiology and cellular cultures we have been unable to master the foreign methods for the suspension cultivation of cellular strains and develop inexpensive high quality anthrax vaccines. Lagging in immunology has led to the nonutilization of modern methods such

as, for example, the marking of antibodies with peroxydase which is very useful in expert diagnosis. We are insufficiently studying problems of cellular immunity and secretory antibodies. The limited variety of cellular cultures and the unmastered method for the multiplication of viruses hinder the solution of the problem of immunoprophylaxis against respiratory-syncytial viral infection and intestinal and intra viral infections in calves and pigs. Lagging in the field of the genetics of microorganisms and, particularly, plasmid extrachromosomal heredity in bacteria greatly hinder the diagnosis and differentiation between virulent and nonvirulent strains. This hinders selection work and the development of attenuated harmless bacterial vaccine strains. The study of immunity from helminths and protozoal invasions is also developing too slowly.

Regardless of our successes, the production of immunological means in our country is falling behind scientific and technical progress in this field. We are not developing modern technological solutions for the production of large quantities of biopreparations using modern equipment and automation. We are also behind in the lyophilization, standardization, and containerization of some biopreparations. We have no technical facilities for promoting more effective methods for the use of biopreparations such as large drop aerosols, etc. Furthermore, in the mass production of vaccines, we must raise current control of biopreparations to a much higher level.

That is why the serious discussion of such topical directions in veterinary medicine, and availability of the necessary materials and cadres are extremely urgent. This will ensure our industrial animal husbandry with a rich variety of high quality and effective immunoprophylactic means.

5003

CSO: 5400

GOVERNOR LAUNCHES COW INOCULATION PROGRAM IN JAKARTA AREA

Jakarta MERDEKA in Indonesian 13 Jul 79 p 5

[Excerpt] DKI Governor Tjokropranolo personally vaccinated the milk cows of H. M. Rozi in Kuningan Timur Kampong, Kuningan Ward, South Jakarta on Wednesday morning, to officially begin a program of free mass vaccination against foot and mouth disease of milk cows in DKI, Jakarta.

The government of DKI expects all milk cows in DKI to have vaccination certificates against foot and mouth disease, Tjokropranolo stated.

The governor explained that vaccination was not being undertaken because DKI are sent cows to outlying areas, but because Jakarta has a great possibility of received infected cows, since Jakarta receives many slaughtered cows from outlying areas.

9197

CSO: 5400

## FOOT-AND-MOUTH DISEASE REPORTED IN PERLIS, KEDAH STATES

## Sale of Meat Prohibited

Kuala Lumpur BUSINESS TIMES in English 2 Jul 79 p 3

[Text] THE Perlis Veterinary Department has reimposed the ban on the slaughter and movement of livestock such as buffaloes, cows and goats throughout the state from Saturday.

A department spokesman said the steps were taken following the breakout of new cases of the foot and mouth disease in several places in the state a few days ago.

He said following the breakout, the department also prohibited

the sale of meat until further notice.

The State Veterinary Department, he added, was launching a campaign to vaccinate livestock in the affected areas as well as other areas.

The fresh cases of the disease were reported in Kangar and Padang Besar several days ago.

The vaccination campaign in the two places would begin today and that in other areas from north to south on July 7.

The spokesman said the first vaccination campaign this year was from April 28 to May 10.

The Veterinary Department had instructed the people to vaccinate their livestock during the scheduled time.

The spokesman said livestock owners were also advised against moving their livestock to other areas to prevent the spread of the disease. — Bernama

## Slaughter Ban Relaxed

Kuala Lumpur NEW STRAITS TIMES in English 27 Jul 79 p 8

[Text]

ALOR STAR, Thurs. — The Kedah Veterinary Department has relaxed the ban on the slaughter of livestock in the Kubang Pasu District, especially in Jitra town, during the fasting month.

The Deputy Director of Veterinary Services, Dr. Jaafar Khan Ahmad Khan said however, that livestock to be slaughtered must first be examined by a veterinary officer and be given vaccination against

the foot and mouth diseases.

He said after the slaughter, the officers would once again examine the meat to ensure they were not diseased.

On the slaughter for Hari Raya, he said his department would give special consideration to residents around the Kubang Pasu area.

Dr. Jaafar Khan also said that the second vaccination campaign in the district was still being carried out. — Bernama.



## BRIEFS

HERDS DYING--Salisbury--More than 1,000,000 cattle belonging to tribesmen in Zimbabwe-Rhodesia are estimated to have died because of a breakdown in veterinary and dipping services due to the war. Some 700,000 died during the past year. At least a third of the tribal herds, which are the worldly wealth of the rural blacks, have been decimated. In some areas 95 percent of the cattle have died and in others, mainly along the eastern border, the herds have been halved. Tick-borne disease is now moving inland threatening to turn moderately affected tribal lands into high death areas. Dr Andy Norval, head of the tick research section at the veterinary laboratory in Salisbury, said that 80 percent of tribal cattle were not being dipped and unless dipping programmes began immediately losses in the coming rainy season could be staggering. The disaster in the tribal areas is indicative of the problems facing the industry as a whole. Once one of the foremost beef producers in the world, Zimbabwe-Rhodesia could become a beef importer unless the rapid decline in the industry is checked. White ranchers are faced not only with disease--including the worst ever outbreak of foot and mouth --but also have to contend with widespread rustling. An estimated 4,000 head of cattle worth over R1,200,000 are stolen every month. The army has established special anti-theft units to assist private patrols on large ranches. [Text] [Johannesburg RAND DAILY MAIL in English 20 Aug 79 p 2]

CSO: 5400



## AUSTRALIA

### BRIEFS

**FRUITFLY SCARE ENDS--**Tanberra.--A fruit fly discovered in the Northern Territory four years ago appears to pose no threat to Australia's commercial fruit-growing industry, according to the Health Minister (Mr. Hunt). He released the results yesterday of an intensive scientific study of the fly. The study was initiated after specimens apparently identical to the oriental fruit fly *dacus dorsalis* were detected in a monitoring programme on Melville Island, off the Northern Territory coast, late in 1975. *Dacus dorsalis* is a species which has devastated commercial fruit crops in Hawaii. An immediate spraying program was launched on Melville Island and surveys were undertaken on the mainland. Mr. Hunt said studies had shown the Northern Territory species of *dacus dorsalis* was genetically distinct from the known Asian forms in Asia and the Philippines. [Text] [Brisbane THE COURIER-MAIL in English 27 Jul 79 p 9]

**SPREAD OF DIEBACK--**The bull banksia has been identified as a major reservoir of dieback infection in WA's jarrah forest. The tree is highly susceptible to the disease and when the fungus that causes it--*Phytophthora cinnamomi*--enters an area, banksias are among the first to die. Forest Department scientists have also established that the fungus can move through very big banksia roots. The leader of the department's research team at Dwellingup, Dr S.R. Shea said yesterday that the ability of the fungus to spread through banksia roots even when the outside soil conditions were unfavourable had a further effect. Dr Shea said no attempts to control dieback were likely to be successful unless there was a sharp reduction in the number of bull banksias in the forest. [Excerpts] [Perth THE WEST AUSTRALIAN in English 3 Aug 79 p 11]

**DISEASED EUCALYPTS--**The National Trust called on Federal and State Governments yesterday to back research efforts into the death of Australia's eucalypt trees. The director of the trust, Mr John Morris, described the dieback of the trees over wide areas of Australia as a national calamity. Eucalypt trees are dying by the thousands on grazing and farming lands in widespread parts of Australia. The dieback has hit trees on NSW's northern, central and southern tablelands, in Gippsland and the western districts of Victoria and in the south-west of Western Australia. "All Australians should be concerned about the tree dieback problems," he said. "It has serious economic implications for the community." [Excerpts] [Sydney THE SYDNEY MORNING HERALD in English 4 Aug 79 p 5]

CSO: 5400

## CAPE VERDE

### BRIEFS

INSECT PLAGUES--Large quantities of locusts began to appear last week in most of the rural zones of Tarrafal. The agricultural department's technical team has been distributing insecticides to combat these locusts since 3 August. Most of the affected areas have already started the fight, while others are just beginning. It is possible that until next Wednesday insecticides will be available in all localities. Besides the locusts, however, corn is being attacked by underground insects commonly called "broca." No measures have been adopted as yet to combat these insects, but we feel sure that the MDR [Ministry of Rural Development] will do everything in its power to bring the situation back to normal. [Excerpt] [Praia VOZ DI POVO in Portuguese 11 Aug 79 p 4]

CSO: 5400

## BRIEFS

**PESTS IN NORTHERN REGION**--During the middle of this month in Luang Prabang Province guidance committees for plant pest eradication were established with Mr Vongphet, vice chairman of the province administrative committee, in charge. This is aimed at the eradication of plant pests presently proliferating in rice fields and in other crop fields belonging to the people of the province. After the committees' establishment they sent cadres and 970 kilograms of powdered insecticides, 1,280 liters of spray and 116 sprayers to join with the agriculture departments of various districts to eradicate these pests now destroying the fields to help the people. Also during this time the Provincial Administrative Committee sent nearly 10 tons of milled rice to people lacking it in [Tasseng] Nakham, Pakxeuang and Phonkham Cantons in [Meuang] Pak Ou District. This greatly pleased the people who went to work diligently to produce. There are further news reports that on 20 July the Agriculture Department of Xieng Khouang Province sent over 1,330 kilograms of insecticides, technical cadres and equipment to join with the Agriculture Departments of [Meuang] Mok, Khoun, Pek and Nong Het Districts to help the people of those localities eradicate plant pests now destroying their rice. At the same time with the help of the technical cadres, the people of Houai On, Houai Bout, Kokngiao and Houai Gnot villages, [Tasseng] Chomvan Canton, [Meuang] Khoua District, Phong Saly Province, joined together to promptly eradicate plant pests destroying their rice. In only a few days, they killed 1,290 kilograms of caterpillars. Of those, 513 were killed with insecticides and the rest were caught by hand. Presently, by joining together with the technical cadres, the people of those places are paying urgent attention to the eradication of plant pests in order to save the rice stalks and those of other crops and restore them to normal. [Text] [Vientiane KHAOSAN PATHET LAO in Lao 23 Jul 79 p A1]

**PHONG SALY PESTS**--Since the beginning of July the Phong Saly Agriculture Department has urgently sent a number of technical cadres, over 4,400 kilograms of insecticides and 40 sprayers of which 3 were motorized to the multi-ethnic population of three districts in the province: [Meuang] Mai, Samphan and [Meuang] Khoua. This was done in order to save the rice stalks and other crops from destruction by various plant pests which were seriously damaging the fields. During that time attention was urgently paid to spraying the

insecticides. They were able to kill a total of 8,776 kilograms of various kinds of caterpillars and insects. Aside from this, other localities of that province are promoting production and are killing plant pests to happily build their new lives. The technical cadres of various agriculture departments are also joining with people in their localities to spray insecticides. [Text] [Vientiane KHAOSAN PATHET LAO in Lao 31 Jul 79 p A 3]

INSECTS IN LUANG PRABANG--On 20 July, the [Meuang] Phon Sai District administrative committee in Luang Prabang Province sent 35 technical cadres with 1,000 kilograms of insecticides to combat insect pest in the various regions of the district. Presently the cadres are actively continuing their work to insure a good harvest this year. [Text] [Vientiane BULLETIN QUOTIDIEN in French 27 Jul 79 p 3]

CSO: 5400

PEST CONTROL UNIT BUYS PLANES FOR SPRAYING

Lagos BUSINESS TIMES in English 19 Jun 79 p 24

[Article by Henry Atenaga]

[Text] The Pest Control Unit of the Federal Ministry of Agriculture and Water Resources has acquired four fixed-wing aircrafts from the Nigerian Air Force for aerial spraying of pesticides.

In addition, an order has been placed for a helicopter while four pilots and two engineers have been trained for the same purpose.

These facts were disclosed by the Federal Commissioner for Agriculture and Water Resources last Friday in address read on his behalf by Mr. G. Iwegbu, a top official of the Ministry. The occasion was the Prize-giving ceremony of the farmers' competition organised by the National Oil and Chemical Marketing Company former SHELL.

According to the commissioner, these acquisitions are necessary because "in a country where more than sixty per cent of the labour force is engaged in farming and where enormous quantities of food are lost to insects, rodents and other predators, a massive programme of pest control must be regarded as an essential pre-requisite in any effort aimed at increasing food supplies".

Quoting studies which he described as "most comprehensive" the commissioner put the losses caused by these pests at 40 per cent of potential production in the whole of Africa, including Nigeria.

As a result, the Ministry of Agriculture has spend over N4m in the last two years on the purchase of equipment, pesticides and insecticides. Also, because skilled manpower has been a constraint, the ministry has trained a total of 140 officers in various aspects of pest control.

To this end, the ministry is believed to be on the verge of launching a programme in collaboration with three Crop Research Institutes aimed at reducing post-harvest losses incurred every year.

In his address later, the Agro-chemicals Manager of National Chemicals, Mr. Duro Oyekanle, saw the problem of increased food production in Nigeria as being that of luring the farmer to increase his acreage and checking the enormous loss due to pests and weed infestation.

"In fact, scientists at the IITA have reported losses of the order of 70 per cent in open crops like yam and maize as a result of weed infestation" he declared.

CSO: 5400

## PAKISTAN

### BRIEFS

SATELLITE FOR LOCUST SURVEY--Karachi, 24 Aug--Satellite remote sensing system technology will be soon used in Pakistan for survey and control of desert locusts, it is learnt. Official sources said that in order to completely eliminate and prevent large-scale upsurge of the desert locust activity on national and international scales as witnessed by India and Pakistan in 1978, and save the loss of agricultural crop production, concrete steps would be taken by the Department of Plant Protection in close cooperation of the SUPARCO and the FAO on the development and subsequent implementation of the satellite based information system for desert locust survey and control in Pakistan. The sources said both the weather satellites (TIROS-N) and earth resources satellites (LANDSAT) would be used for the purpose. NAB/APP [Text]  
[Rangoon THE WORKING PEOPLE'S DAILY in English 25 Aug 79 p 4]

CSO: 5400



DRIVE ON TUNGRO FUNGUS LAUNCHED

Manila BULLETIN TODAY in English 19 Aug 79 pp 1,11

[Text] Cotabato City, Aug 18--The Ministry of Agriculture has launched a large-scale pest control drive in seven regions, covered by Masagana 99 to curb a reported spread of tungro infestation.

Tungro is a virus that afflicts rice plants and gradually destroys the leaves of the cereal. If not immediately contained, the virus could infect and totally destroy adjoining rice fields in any area.

Plant Industry Director Domingo F. Panganiban, who arrived here yesterday, said that all the bureau's crop protection personnel have already been alerted and mobilized to control the tungro menace.

The BULLETIN gathered that to date some 1,000 hectares of rice lands in seven regions have reported on tungro infestation.

Panganiban ordered continuous spraying of rice plants in the immediate vicinity of the areas hit by the disease.

The BPI director, who is also the executive director of the national food and agriculture council, also directed that all rice paddies bearing diseased plants should be plowed through to prevent the virus from spreading to adjoining areas.

The seven regions affected by tungro infestation are: Regions 3, 4, 8, 9, 10, 11 and 12.

BPI Regional Director Mauro Arcega of this city said that in his region alone a total of 123 hectares have already been debilitated by the plant disease.

Arcega, who is also Masagana 99 regional coordinator, said that he had already sent his surveillance and early warning system (SEWS) teams to all parts of the region to make a thorough inspection on the prevalence of the disease.

SEWS team leader Baldomero Atienzar said teams have already asked the farmers to furrow immediately their rice paddies to prevent the disease from spreading to the other plants. The six municipalities affected by the disease in the area were identified as Matalam, Makilala, Kabakan, M'lang, Libungan and Pigkawayan.

As this developed, seven municipalities in Lanao del Sur reported the presence of army worms to Director Arcega.

Upon receipt of the report, Arcega immediately sent a team to the area and brought with it anti-army worm chemicals to prevent the menace from spreading.

Regions 11 and 12 are two of the country's biggest rice and corn producers.  
(Bobby Burgos)

CSO: 5400

BEETLE THREATENS BAGUIO PINE TREES

Manila PHILIPPINES DAILY EXPRESS in English 23 Aug 79 p 3

[Text] Baguio City--A grim struggle between men and insect is now taking place in the uplands of North Luzon with the provinces generally known to lowlanders as "Baguio" as the main battleground.

At stake is the beautiful and aromatic Benguet pine stands of the region.

The pine trees are being attacked by one of the fiercest beetle bark borers dubbed by government foresters as the "pine engraver," called by uplanders as "bukbuk" and scientifically tagged as "*Ips interstitialis* Eichhoff" or simply "*Ips Calligraphus*."

Latest reports from the "battlefront" tell of heavy casualty on part of the pine strands.

However, field personnel of the forest development bureau have launched a counterattack using chemical sprays against the bark borers.

They are highly hopeful that the insecticide will eventually turn the tide of battle.

The latest casualty count: 8,188 pine trees heavily infested in the upper Agno river basin; 1,278 trees along the Kennon Road of Baguio virtually lost; stands in Langangilang, Abra, and those in the Callagan reservation in Ifugao province, also widely infested.

Foresters know what the beetles can do. They still remember how the pest wiped out a two-hectare pine stand in Bantay, Ilocos Sur, last 1970, when damage done by the beetle to the trees was first officially noted.

The beetle was first discovered in Central America. How and when it was introduced in the Philippines is not known.

"The *Ips* are on a tree-killing rampage. They are not unstoppable, however," according to Alfredo Agpaoa, coordinator of the center set up in this city by the Forest Research Institute (FORI).

FORI personnel are assisting the bureau in fighting the bark borer.

Aside from use of insecticide, the government foresters have undertaken several measures to prevent still unaffected stands from being attacked by the insect.

Among means being resorted to are cutting and burning of infested trees, proper disposal of slash and protection of pine breasts from fire damage.

The foresters said they were also considering the growing of trees through silvicultural practices such as salvage or improvement, to be followed by cutting and thinning.

Trees growing on poor soil seem to be most vulnerable to attack from the beetles. Another observation is that pure pine stands suffer heavy manifestation unlike those where other tree varieties also grow.

"The problem basically is the result of mono-culture, a condition favorable to pest and disease outbreaks on an epidemic scale," the foresters said.

Young stands are the usual preference of the borers although these attack trees of all ages, the foresters narrated.

After entering through the tree's bark, the pest breeds and multiplies fast, the new generation feeding on the insides of the trees.

Trees attacked usually exhibited weak growth, yellowing, wilting and then drying up of its needle-shaped leaves, the latter condition a sign that the tree is dying.

Foresters said infestation of the pine stands by the borers is particularly intense during extremely dry weather.

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